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Two new species of the genus *Cleaveius* Subrahmanian, 1927 (Acanthocephala : Micracanthorhynchinidae Yamaguti, 1963)

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Abstract. Two new species *Cleaveius leiognathi* and *C. port-blairensis* from the marine fishes of Goa, Andaman and Nicobar Islands have been described in this paper. The two species differ from each other and from the only already described species of the genus in the number and size of proboscis hooks.

Keywords. New species; *Cleaveius leiognathi*; *Cleaveius port-blairensis*.

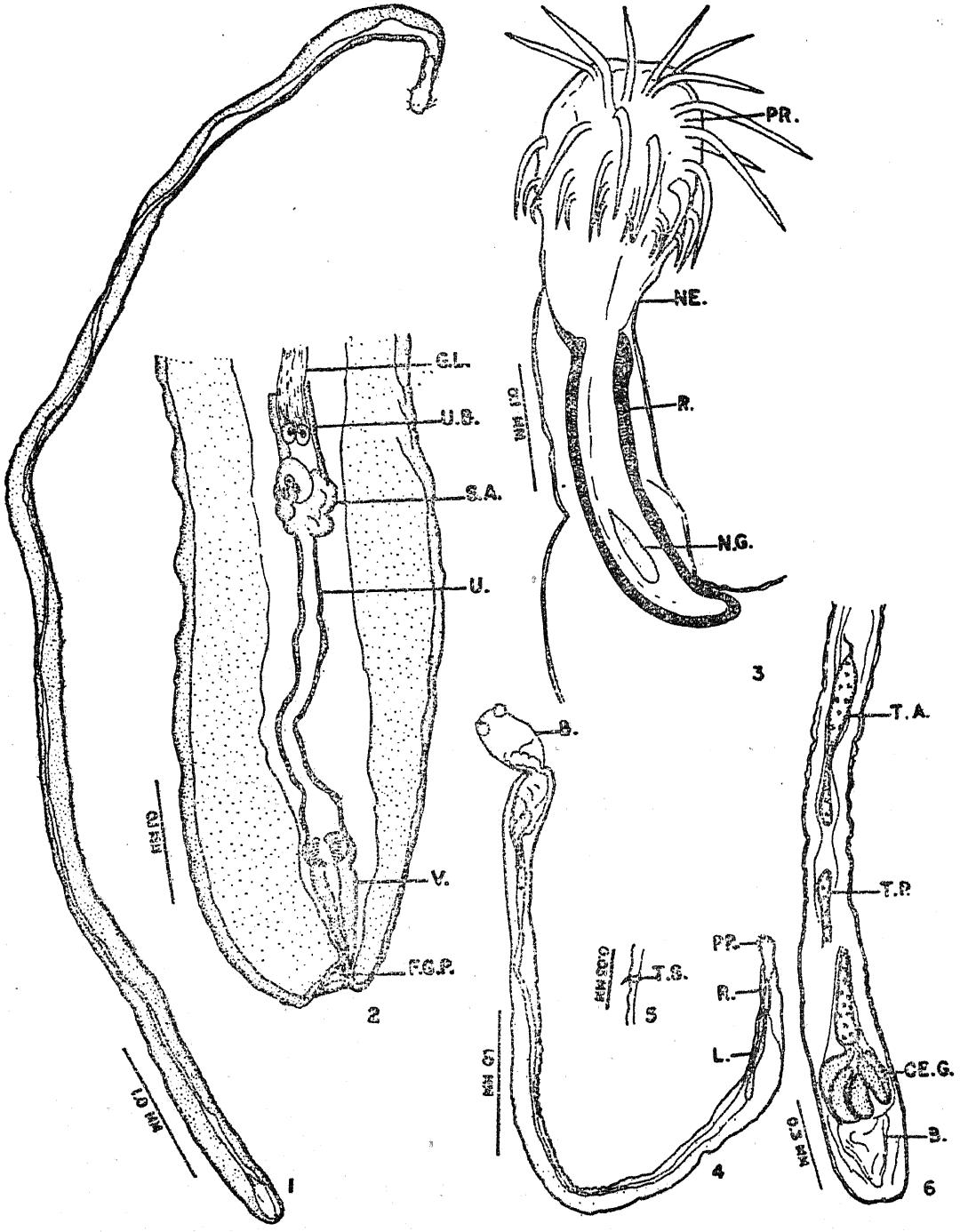
Family: Micracanthorhynchinidae Yamaguti, 1963

Genus : *Cleaveius* Subrahmanian, 1927

Cleaveius leiognathi n.sp. (figures 1–6)

The material pertaining to *Cleaveius leiognathi* n.sp. consisted of three male and two female specimens collected from the intestine of a marine fish, *Leiognathus* (=*Equula*) *splendens* (Cuv.) at Port Blair (Andaman and Nicobar Islands) and one female from the same host dissected at Panaji (Goa). The specimens were not in good condition, but their taxonomic characters were salient enough to indicate that they represent a new species of the genus *Cleaveius* Subrahmanian, 1927. All measurements in this paper are in millimeters unless otherwise stated.

Description : Body delicate, elongated, narrow, with rounded posterior end and spined in the middle region. Proboscis small, claviform, armed with 11 longitudinal rows of 4–5 hooks each, its armature similar in both sexes. The size of proboscis hooks decreases towards the posterior end; apical and subapical hooks largest, 92–110 × 7–9 μ in size and the posteriormost smallest, 21–33 × 4 μ, third and fourth hooks of each row 70–87 × 6–8 and 32–54 × 5–7 μ respectively. Neck cylindrical, longer than the proboscis. Proboscis receptacle double-walled, inserted at the base of proboscis, its musculature begins well behind the point of insertion. Nerve ganglion situated anterior to the base of receptacle, postequatorial. Lemnisci narrow, cylindrical with rounded tips, equal or subequal, longer than the receptacle. Body spines very minute, 8–9 × 3–4 μ in size, scattered in



Figures 1–6. *Cleaveius leiognathi* n.sp. **1.** Female; **2.** Posterior end of female. **3.** Proboscis. **4.** Male. **5.** Trunk spine. **6.** Posterior end of male. (Explanation of abbreviations is given in p. 310)

the middle region, 0·473–0·88 from the anterior end and 0·66–1·73 from the posterior.

Male (3 specimens measured): 5·296–7·111 in length and 0·275–0·286 in maximum breadth. Proboscis 0·088–0·132 × 0·11–0·127 in size. Neck 0·231–0·253

× 0·088–0·099; proboscis receptacle 0·253–0·352 long and 0·055–0·066 broad and lemnisci 0·56–0·682 × 0·028–0·066 and 0·56–0·737 × 0·032–0·055 in size. Reproductive organs in posterior region of body; testes elongated, tandem, dumb-bell shaped, anterior 0·374–0·57 × 0·012–0·078 and the posterior 0·552 × 0·022–0·077 in size. Cement glands four, compactly arranged 0·132–0·165 × 0·055–0·066 in size. Copulatory bursa 0·286 long and 0·132 broad. Genital pore terminal.

Female (3 specimens measured): 5·005–10·689 long and 0·187–0·264 in maximum breadth. Proboscis 0·121–0·165 × 0·11–0·132 in size. Neck 0·144–0·232 × 0·087–0·109 in size. Proboscis receptacle 0·219–0·328 long and 0·065–0·099 broad. Lemnisci could be studied only in one female in which they measured 0·605 × 0·033. Genital tube 0·352–0·452 long, genital pore terminal. Only ovarian balls present.

Discussion : In having a medium sized body, spined trunk, short proboscis with longitudinal rows of few hooks, long, double-walled proboscis receptacle with ganglion a little anterior to its base and four compact cement glands, the present specimens fall under the genus *Cleaveius* Subrahmanian, 1927.

So far only one species, *C. circumspinifer* Subrahmanian, 1927 from a fresh-water fish in Rangoon (Burma) is known to this genus. In this species the proboscis is armed with 18 longitudinal rows of 4 hooks each, the longest of which is 55 μ and the smallest 30 μ long; body spines are 25–30 μ long and are arranged in two groups in the female (while in single group in the male), lemnisci are coiled and testes are elongated.

Thus the present specimens stand apart from it and constitute a new species. It has been named *Cleaveius leiognathi*, after the generic name of its host.

Differential diagnosis : Proboscis with 11 longitudinal rows of 4–5 hooks, the longest hook 92–110 μ and the smallest 21–33 μ long, body spines 8 μ long, scattered in the middle region in both sexes; lemnisci cylindrical and testes dumb-bell shaped.

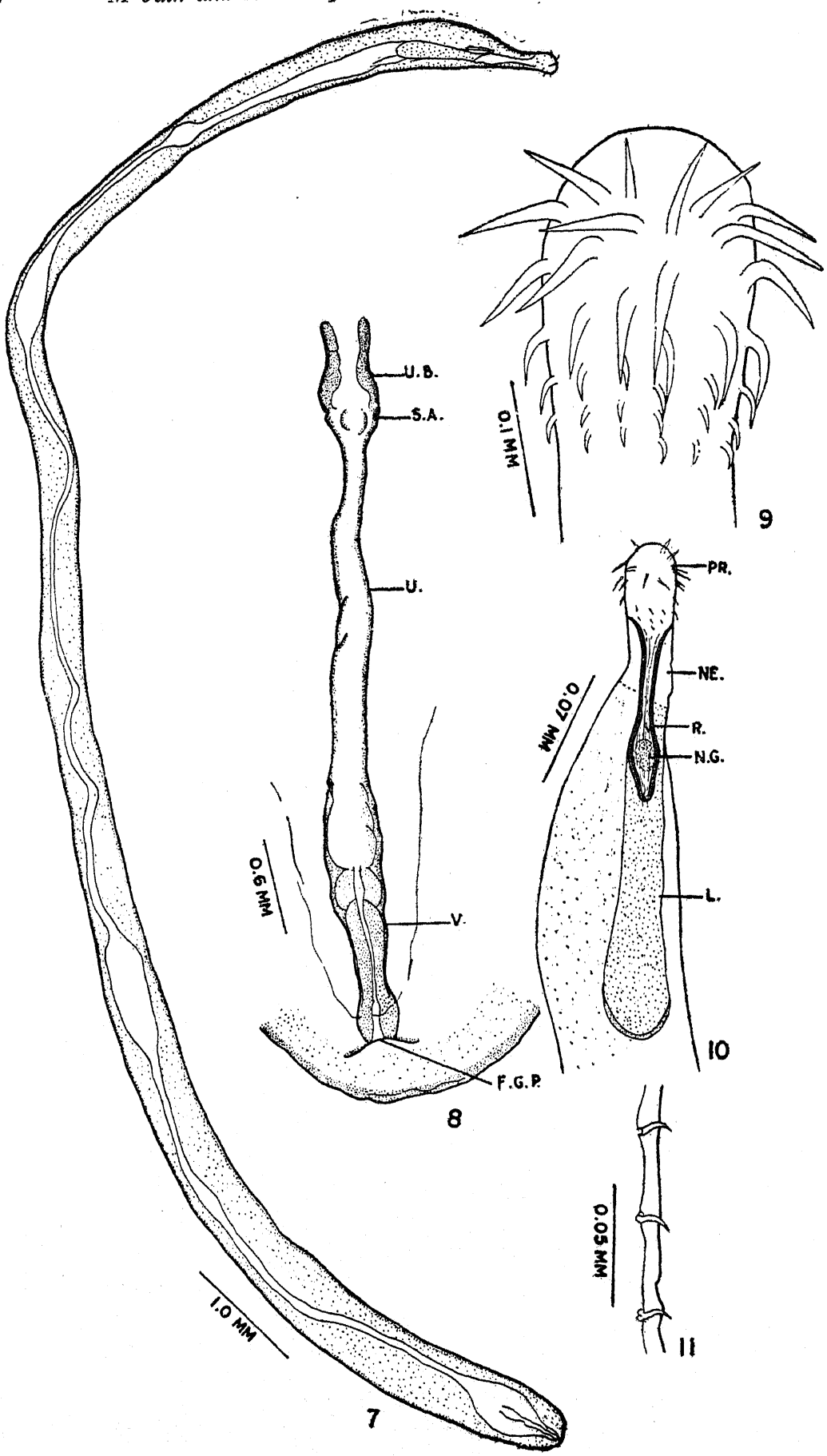
Specific diagnosis : Male 5·296–7·111 and female 5·005–10·689 long; proboscis armed with 11 longitudinal rows of 4–5 hooks each, longest hooks (apical and sub-apical) 92–100 × 7–9 μ and smallest (basal) 21–33 × 4 μ in size. Body spines very minute, 8–9 × 3–4 μ in size, scattered in the mid-region only; lemnisci equal or subequal, longer than the proboscis receptacle; testes elongated, dumb-bell shaped.

Host : *Leiognathus splendens* (Cuv.)
Location : Intestine
Locality : Port Blair (Andaman and Nicobar Islands), Panaji (Goa).

***Cleaveius port-blairensis* n.sp. (figures 7–11)**

A female specimen of *Cleaveius port-blairensis* n.sp. was found in the collection of Acanthocephala from marine fishes of Port Blair (Andaman and Nicobar Islands). As it showed some characters quite distinct from other species, it is being described.

Description : Female: Body long, slender, broader anteriorly, 15·85 in length and 0·495 in maximum breadth. Proboscis claviform, 0·187 × 0·132 in size,



Figures 7–11. (Captions in p. 310)

armed with 11 longitudinal rows of 6 hooks each, the posterior three hooks of each row appreciably smaller than the anterior ones, with slight gradual decrease in their size anteroposteriorly. Of the three anterior, longer hooks, the middle one (i.e., the second hook of each row) longest, 67–72 × 8–9 μ and the first and third hooks smaller, 54–57 × 8–9 μ in size; fourth, fifth and sixth hooks of each row measuring 32–38 × 6–7, 24–27 × 4–7 and 17–24 × 3–4 μ respectively. Neck 0·176 × 0·132 in size. Proboscis receptacle d uble-walled, inserted at the base of proboscis, with a tapering posterior end, 0·385 long and 0·077 in maximum breadth. Nerve ganglion a little anterior to the base of receptacle. Lemnisci clavate, subequal, 0·847 × 0·176 and 0·836 × 0·165 in size. Trunk armed with minute, 10–15 μ long scattered spines from the level of the base of receptacle to about three-fourths of total bod length. Genital tube 0·44 long, with a subterminal genital pore.

Discussion : The medium sized body, spined trunk, short proboscis with longitudinal rows of few hooks, long and double-walled proboscis receptacle with nerve ganglion a little anterior to its base justify the inclusion of present specimen in the genus *Cleaveius* Subrahmanian, 1927.

It differs from both the species described so far under this genus, viz., *Cleaveius spinifer* Subrahmanian, 1927 and *C. leiognathi* n.sp. (described herein earlier) in body size and in the number and size of the proboscis hooks. In *C. circumspinifer*, the female is 8·1 × 0·38 in size and the proboscis is armed with 18 longitudinal rows of 4 hooks each, the longest of which are 55 μ and the smallest 30 μ long. In *C. leiognathi*, the female is 5·005–10·689 long and the proboscis is armed with 11 longitudinal rows of 4–5 hooks each of which the first and second from the anterior end are longest being 92–110 μ in length and the posteriormost, smallest hooks are 21–33 μ long. In this species there is gradual decrease in size of hooks from the anterior to posterior end of the proboscis.

In view of these differences, the present form has been considered a new species. The name *Cleaveius port-blairensis* n.sp. has been given to it after its locality.

Differential diagnosis : Female 15·85 × 0·495 in size; proboscis armed with 11 longitudinal rows of 6 hooks each, the anterior three hooks of each row appreciably longer than the succeeding ones, second hook of each row longest, 67–72 μ long and the sixth (posteriormost) smallest, 17–24 μ long.

Specific diagnosis : Female 15·85 long and 0·495 broad; proboscis armed with 11 longitudinal rows of 6 hooks each, anterior three hooks of each row appreciably longer than the posterior ones, the second hooks from anterior end in each row longest, 67–72 μ long, first and third hooks 54–57 μ and fourth, fifth and sixth hooks 32–38, 24–27 and 17–24 μ long respectively; trunk armed with scattered, 10–15 μ long spines from the level of posterior end of receptacle to about three-fourths of the total body length.

Host : A marine teleost (The fish could not be identified for want of facilities at the islands)
Location : Intestine
Locality : Port Blair (Andaman and Nicobar Islands).

References

Subrahmanian K A 1927 On a new genus of acanthocephala from Rangoon; *Ann. Mag. Nat. Hist. Ser.* 9 **19** 275–279

Yamaguti S 1963 *Systema helminthum V. Acanthocephala* (New York: Interscience Publishers) pp. 1–423

Captions to figures

Figures 7–11. *Cleaveius port-blairensis* n.sp. **7.** Female. **8.** Female genital tube. **9.** Proboscis. **10.** Anterior end of female. **11.** Trunk spines.

(B.—bursa; CE.G.—cement gland; F.G.P.—female genital pore; G.L.—genital ligament; L.—lemniscus; NE.—neck; N.G.—nerve ganglion; PR.—proboscis; R.—proboscis receptacle; S.A.—selector apparatus; T.A.—anterior testis; T.P.—posterior testis, T.S.—trunk spine; U.—uterus; U.B.—uterine bell; V.—vagina).